NOTE: the problem below serve is just a demonstration of what kind of open-end question are probable to appear on the exam. However, it doesn't mean that you will have exactly the same questions, they only serve as a guideline for your preparation for the exam. However, if you fully understand the solutions to the questions (that we covered during the last session), there is very high probability that you will pass the exam successfully.

In addition to the open-end questions, the exam will contain multiple-choice questions related to the topic covered during the course.

The chapters that we have covered are: (from Mankiw book)

- **Chapter 1, 4,5**

In your answers, include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes.

The markets for bananas, muffins and coffee are interrelated, and each market is perfectly competitive.

1. In the market for bananas, the equilibrium price is $1.00 per pound, and the equilibrium quantity is 1,000 pounds per week. Suppose the government imposes a price on bananas at $1.20 per pound, causing the quantity supplied to increase to 1,500 pounds per week.
    a. Would the price floor result in a shortage, a surplus, or neither? Explain
    b. Calculate the price elasticity of supply if the price increases from $1 to $1.20. Show your calculations.
    c. Between $1 and $1.20, is the supply elastic, unit elastic, or inelastic? Explain.
2. Bananas are an input for muffins.
    a. Draw a correctly labeled graph of the market for muffins indicating the equilibrium price and quantity labeled P_0 an Q_0 respectively.
    b. On a graph, show how the changes described in Q1 affect the demand/supply in the market for muffins.
3. In the market for coffee, the equilibrium price is $3.00 per cup and the equilibrium quantity is 100 cups per week. The cross-price elasticity of coffee with respect to muffins is -2.
    a. Are coffee and muffins normal goods, inferior goods, complementary goods or substitute goods?
    b. Assume the supply of coffee is perfectly elastic. Using the equilibrium price and quantity given above draw a correctly labeled graph for the coffee market, and show the impact of an increase in the price of muffins on the coffee market.
    c. Given the original quantity of 100 cups of coffee per week, if the increase in the price of muffin is 10%. Calculate the new equilibrium quantity in the coffee market. Show your work.